CLAIMS

1. A lateral flow immunoassay device for identifying the presence of tissue from a particular species of billfish in a test sample, the device comprising a substrate onto which a billfish specific antigen-containing sample has been immobilized.

2. The immunoassay device of claim 1, wherein the substrate comprises a nitrocellulose membrane.

3. The immunoassay device of claim 2, wherein the substrate comprises a plastic-backed nitrocellulose membrane.

4. The immunoassay device of claim 1, wherein the substrate has a first end and a second end, the first end having thereon the immobilized billfish-specific antigen-containing sample, and the second end being adapted to receive a solution comprising an antibody that specifically binds the billfish-specific antigen.

5. The immunoassay device of claim 4, wherein the solution further comprises at least a portion of the test sample.

6. The immunoassay device of claim 1, wherein the billfish-specific antigen is a billfish serum albumin.

7. The immunoassay device of claim 6, wherein the billfish serum albumin comprisess sailfish serum albumin.

8. The immunoassay device of claim 6, wherein the billfish serum albumin comprises blue marlin serum albumin.

9. The immunoassay device of claim 6, wherein the billfish serum albumin comprises white marlin serum albumin.

10. The immunoassay device of claim 4, wherein the solution is applied on the substrate.

11. The immunoassay device of claim 10, wherein at least a portion of the antibody is specifically bound to the immobilized billfish specific antigen.

12. The immunoassay device of claim 10, wherein the antibody is detectably labeled.

13. The immunoassay device of claim 12, wherein the detectably labeled antibody is conjugated to a gold particle.

14. The immunoassay device of claim 12, wherein the gold particle has a diameter of between 20-40 nm.

15. The immunoassay device of claim 1, wherein a non-billfish specific antigen has been immobilized on the substrate.

16. A kit for identifying the presence of tissue from a particular species of billfish in a test sample, the kit comprising:

a lateral flow immunoassay device comprising a substrate onto which a billfish- specific antigen-containing sample has been immobilized; and

a solution comprising an antibody that specifically binds the billfish-specific antigen.

17. The kit of claim 16, wherein the billfish specific antigen is a billfish serum albumin.

18. The kit of claim 17, wherein the billfish serum albumin is selected from the group consisting of sailfish serum albumin; blue marlin serum albumin; and white marlin serum albumin.

19. The kit of claim 16, wherein the antibody is detectably labeled.

20. The kit of claim 19, wherein the detectably labeled antibody is conjugated to a gold particle.

21. The kit of claim 20, wherein the gold particle has a diameter of between 20-40 nm.

22. The kit of claim 16, wherein a non-billfish specific antigen has been immobilized on the substrate.

23. A method for identifying the presence of tissue from a particular species of billfish in a test sample, the method comprising the steps of:

(A) providing the test sample and a substrate onto which a billfish-specific antigen-containing sample has been immobilized;

(B) preparing an antibody-test sample mixture by mixing the test sample with an antibody that specifically binds the billfish specific antigen; and

(C) applying the antibody-test sample mixture to the substrate.

24. The method of claim 23, wherein the billfish-specific antigen is a billfish serum albumin.

25. The method of claim 24, wherein the billfish serum albumin is selected from the group consisting of sailfish serum albumin; blue marlin serum albumin; and white marlin serum albumin.

26. The method of claim 23, wherein the antibody is detectably labeled.

27. The method of claim 26, wherein the detectably labeled antibody is conjugated to a gold particle.

28. The method of claim 23, wherein a non-billfish specific antigen has been immobilized on the substrate.

29. A method for identifying the presence of tissue from a particular species of billfish in a test sample, the method comprising the steps of:

(A) providing the test sample and a substrate;

(B) immobilizing at least a portion of the test sample on the substrate;

(C) providing an antibody that specifically binds a billfish-specific antigen; and

(D) applying the antibody to the substrate.

30. The method of claim 29, wherein the billfish-specific antigen is a billfish serum albumin.

31. The method of claim 30, wherein the billfish serum albumin is selected from the group consisting of sailfish serum albumin; blue marlin serum albumin; and white marlin serum albumin.

32. The method of claim 29, wherein the antibody is detectably labeled.

33. The method of claim 32, wherein the detectably labeled antibody is conjugated to a gold particle.

34. The method of claim 29, wherein a non-billfish specific antigen has been immobilized on the substrate.